

Risk Assessment Form

Cardiff School of Biosciences

IMPORTANT: Before carrying out the assessment, please read the Guidance Notes

1. General Information

School	Cardiff School of Biosciences	Building	BIOSI 2	Room No	W/4.11
Name of Assessor	Geraint Parry	Date of Original Assessment	13 th June 2016	Assessment No or practical module No	

Status of Assessor: X Staff Postgraduate ☐ Undergraduate ☐ Other: _____
 (Specify)

2. Brief Description of Procedure/Activity including its Location and Duration

A. Research carried out in these laboratories are plant cell Biology, basic microbiology and molecular biology

B. Potential hazards associated with this practises are as follows:

Procedural risks

- Group 1 microorganisms used in this laboratory are Escherichia coli.
- Handling hot liquids
- Use of gel electrophoresis equipment
- Storage of samples in the -80 degree freezer
- Use of top loading autoclave
- Hand held UV source

Chemical risks (COSHH)

- Making up low risk chemical solutions
- Acids and alkalis
- Use of solvents
- Use of phenolics
- Use of flammable chemicals and Bunsen burners
- Use of liquid nitrogen
- preparation of toxic chemicals

2a. Is your work governed by specific legislation ie:

(Tick as appropriate, see guidance notes)		
Human Tissue (HTA-work involving human tissue):	<input type="checkbox"/>	Approval compliance obtained <input type="checkbox"/>
GM (any genetically modified organism including plant and animals):	<input checked="" type="checkbox"/>	Approval compliance obtained <input type="checkbox"/>
Radiation (radioisotopes, sealed sources):	<input type="checkbox"/>	Approval compliance obtained <input type="checkbox"/>
Controlled Drugs:	<input type="checkbox"/>	Approval compliance obtained <input type="checkbox"/>
Non ionising radiation (lasers, magnetism):	<input type="checkbox"/>	Approval compliance obtained <input type="checkbox"/>
Use of human subjects (Ethics):	<input type="checkbox"/>	Approval compliance obtained <input type="checkbox"/>

3. Persons at Risk Are they Notes

Staff	<input checked="" type="checkbox"/>	Trained	<input checked="" type="checkbox"/>	We have experienced staff and new staff and post graduate students and occasional visitors and work experience students who will receive appropriate training and supervision .
Visitor	<input checked="" type="checkbox"/>	Disabled	<input type="checkbox"/>	
Contractor	<input type="checkbox"/>	Inexperienced	<input checked="" type="checkbox"/>	
Students	<input checked="" type="checkbox"/>	Competent	<input checked="" type="checkbox"/>	

4. Level of Supervision

Notes

None <input type="checkbox"/> Constant <input type="checkbox"/> Periodic <input checked="" type="checkbox"/> Training Required <input checked="" type="checkbox"/>	All staff/students receive in house training and attend school safety inductions and relevant courses before they can commence any workd.
---	---

5. Will Protective Equipment Be Used? Please give *specific* details of PPE

Head <input type="checkbox"/> Eye <input checked="" type="checkbox"/> Ear <input type="checkbox"/> Body <input checked="" type="checkbox"/> Hand <input checked="" type="checkbox"/> Foot <input type="checkbox"/>	Safety glasses, lab coats and gloves and fume hood where appropriate.
---	---

6. Is the Environment at Risk?

Notes

Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
---	--

7. Will Waste be generated?

If 'yes' please give details of disposal

Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Waste will be disposed of in appropriate recepticles, contaminated waste will be autoclaved, non-contaminated waste is destined for land fill via black bags. Chemical waste will be disposed of by schools chemcial waste system including chemical waste bin inside the fume hood and appropriately labelled liquid waste container inside the fume hood as required
---	---

8. Hazards involved

Work Activity / Item of Equipment / Procedure / Physical Location	Hazard	Control Measures and Consequence of Failure	Likelihood (0 to 5) ×	Severity (0 to 5) =	Level of Risk
1.Group 1 microorganisms	Potential infection: dispersal of genetically modified organisms	Ensure cuts are properly covered: Microbiological waste destroyed by autoclaving, Wear personal protective equipment (PPE) i.e. gloves, lab coat Eye splash of sharps injury reported to enable appropriate measures to be implemented. Disinfect area after use	1	2	2
2.Handling hot liquids	Risk of burns and explosion	Allow to cool, read attached SOP for melting agar in the microwave, ensure tops are not tightly closed before melting solid agar. Use the lowest suitable setting on the microwave and do not leave unattended and take care when pouring hot agar. Use PPE including heat protective gloves and lab coat to handle hot liquids.	1	3	4
3.Gel electrophoresis equipment	Electric shock	Ensure all connections are correct: avoid excess liquids on contact and in tanks. Ensure PAT testing is carried out	2	1	3
4.Storage of samples on -80 freezer	Potential cold burns	Handle frozen samples with care. Wear PPE particularly cold protective gloves:.	2	1	2
5.Top loading autoclave	Burns and explosion	Read SOP and ensure appropriate training before use. Wear appropriate PPE which includes lab coat and heat protective gloves. Use with care, monitor pressure and temperature before opening.	1	4	5
6. Hand held UV source	Burns and eye damage	Ensure arms are covered with sleeves of lab coat and the coat is fully fastened to protect the neck area. Wear gloves and eye protection. Use with care and ensure not personnel are at risk in the surrounding area when using the hand held UV source	1	3	4

9. Chemical Safety (COSHH Assessment)

Hazard	Control Measures	Likelihood (0 to 5) ×	Severity (0 to 5) =	Level of Risk
--------	------------------	--------------------------	------------------------	---------------

7.Low risk chemical solutions, Potential carcinogens and poisons	Handle carefully; hand and equipment washing. Wear appropriate PPE which includes lab coat and gloves	1	3	4
8.Acids and alkalis, Burns and poisoning	Handle with care: use fume cupboard when appropriate, keep work are clear of clutter: add dilute solutions where possible: always add acid to water. Wear PPE which includes lab coat, gloves and eye protection:	2	3	5
9.Solvents Inhalations, burns and potential carcinogens	Handle with care: handle only small quantities (less than 100 ml) on bench: use fume cupboard when appropriate, keep work are clear of clutter. Store in solvent cabinet and replace after use. Wear PPE including lab coat, gloves and eye protection:	1	3	4
10.Phenolicss Burns and potential carcinogens	Read SOP before using phenolics Wear PPE including eye protection, lab coat and gloves. Handle with care: use fume cupboard when appropriate, keep work are clear of clutter.	1	3	4
11.Flammable chemicals and Bunsen burners Burns Fire risk	Handle with care, use only small quantities (less than 500 ml) of chemicals on bench: use fume cupboard when appropriate, keep work are clear of clutter. Wear PPE, including lab coat and gloves	2	3	5
12.Liquid nitrogen Potential of serious cold burns	Wear appropriate PPE including eye protection and cold protective gloves if required as well as lab coat, use with care, report splashes into eye or skin to enable appropriate measure to be implemented: handle frozen samples with care. Read SOP before use.	2	3	5
13. Toxic chemicals	All procedures will be carried out in a fume hood, users must wear gloves, eye protection and lab coats, any waste must be disposed of in appropriate containers inside the fume hood as described in sections 7. The safety data sheet will be kept with the risk assessment and this along with the RA must be read and signed before use. The undiluted stocks will be stored in a lockable poisons cabinet along with a book for each usage.	1	3	4

Scoring Criteria for Likelihood (chance of the hazard causing a problem) Likelihood

Scoring Criteria for Severity of Injury (or illness) resulting from the hazard

Likelihood						
5	Almost Certain	5	10	15	20	25
4	Very Likely	4	8	12	16	20
3	Likely	4	6	9	12	16
2	Unlikely	2	4	6	8	10
1	Very Unlikely	1	2	3	4	5
Severity		No Injury / Illness	First Aid Required	Minor Injury	Major Injury	Death
		1	2	3	4	5

Score Action to be taken:

0-5 Low Risk No further action needed.

6-9 Medium Risk Appropriate additional control measures should be implemented

10-25 High Risk Additional control measures **MUST** be implemented. Work **MUST NOT** commence until such measures are in place. If work has already started it must **STOP** until adequate control measures are in place

10. Source(s) of information used to complete the above e.g Supervisor, Web etc....

Supervisor, Safety Advisor. Web

11 Additional Control Measures - Likelihood and Severity are the values with the additional controls in place

Work Activity / Item of Equipment / Procedure / Physical Location	Hazard and Existing Control Measures	Additional Controls needed to Reduce Risk	Likelihood (0 to 5) ×	Severity (0 to 5) =	Level of Risk

After the implementation of new control measures the procedure/activity should be re-assessed to ensure that the level of risk has been reduced as required.

12. Action in the Event of an Accident or Emergency

Report to supervisor / manager and ...first aider, complete accident form

13. Arrangements for Monitoring the Effectiveness of Control

Ad-hoc visual checks and ...safety inspection

14. Review: This assessment must be reviewed by (date):

Name of Reviewer:		Date of Review:	
Have the Control measures been effective in controlling the risk?			
Have there been any changes in the procedure or in information available which affect the estimated level of risk?			
What changes to the Control Measures are required?			

15. Signatures for printed copies:

Assessor: GERAINT PARRY

Date: 5th July 2016

Approved by: JM

Date:

Reviewed by:

Date:

This copy issued to:
(print name and signature)

Date: